

**WEST****End of Result Set** [Generate Collection](#) 

LS: Entry 1 of 1

File: USPT

May 28, 2002

US-PAT-NO: 6397206

DOCUMENT-IDENTIFIER: US 6397206 B1

TITLE: Optimizing fixed, static query or service selection and execution based on working set hints and query signatures

DATE-ISSUED: May 28, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hill; Justin H.	Durham	NC		
Salo; Timo J.	Apex	NC		

## ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
International Business Machines Corporation	Armonk	NY			02

APPL-NO: 9/ 461954 [PALM]

DATE FILED: December 15, 1999

INT-CL: [7] G06 F 17/30

US-CL-ISSUED: 707/2, 707/3, 707/4, 707/5

US-CL-CURRENT: 707/2, 707/3, 707/4, 707/5

FIELD-OF-SEARCH: 707/2, 707/3, 707/4, 707/5

## PRIOR-ART-DISCLOSED:

## U.S. PATENT DOCUMENTS

 [Search Selected](#)  [Search ALL](#)

	PAT-N0	ISSUE-DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/>	<u>5463772</u>	October 1995	Thompson et al.	707/100
<input type="checkbox"/>	<u>5493668</u>	February 1996	Elko et al.	707/200
<input type="checkbox"/>	<u>5499367</u>	March 1996	Bamford et al.	707/9
<input type="checkbox"/>	<u>5537574</u>	July 1996	Elko et al.	707/8
<input type="checkbox"/>	<u>5544345</u>	August 1996	Carpenter et al.	707/203
<input type="checkbox"/>	<u>5555388</u>	September 1996	Shaughnessy	707/200
<input type="checkbox"/>	<u>5557791</u>	September 1996	Cheng et al.	707/7
<input type="checkbox"/>	<u>5574902</u>	November 1996	Josten et al.	707/1
<input type="checkbox"/>	<u>5666525</u>	September 1997	Ross	707/2
<input type="checkbox"/>	<u>5671403</u>	September 1997	Shekita et al.	707/2
<input type="checkbox"/>	<u>5812996</u>	September 1998	Rubin et al.	707/2
<input type="checkbox"/>	<u>5822749</u>	October 1998	Agrawal	707/2
<input type="checkbox"/>	<u>5864840</u>	January 1999	Leung et al.	707/2
<input type="checkbox"/>	<u>6278899</u>	August 2001	Piche et al.	700/44

ART-UNIT: 2771

PRIMARY-EXAMINER: Coby; Frantz

ATTY-AGENT-FIRM: Doudnikoff; Gregory M. Doubet; Marcia L.

ABSTRACT:

A technique for using working set hints and query signatures to optimize the selection and execution of fixed, static services or queries of information from a database, object server, or similar data repository. The working set hints describe how to read ahead when doing a database query, in order to retrieve data in a single database access that a task is likely to need as it continues executing. By storing the working set hints externally from the application code, the hints can be modified as experience is gained about the true working set that is required during use of each task without having to modify and recompile the application itself. Signatures are created and associated with query commands or services. These signatures are compared to the working set hints for a task when the task traverses an association and needs to retrieve data from the data repository. The signature which best matches the task's working set hints is automatically selected, and the query or service associated with this signature is then executed, providing an optimized database retrieval operation.

12 Claims, 19 Drawing figures

**WEST**[Generate Collection](#)[Print](#)**Search Results - Record(s) 1 through 3 of 3 returned.** **1. Document ID: US 6397206 B1**

L6: Entry 1 of 3

File: USPT

May 28, 2002

US-PAT-NO: 6397206

DOCUMENT-IDENTIFIER: US 6397206 B1

TITLE: Optimizing fixed, static query or service selection and execution based on working set hints and query signatures

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>	<a href="#">Claims</a>	<a href="#">KMC</a>
<a href="#">Draw Desc</a>   <a href="#">Image</a>											

 **2. Document ID: US 5822749 A**

L6: Entry 2 of 3

File: USPT

Oct 13, 1998

US-PAT-NO: 5822749

DOCUMENT-IDENTIFIER: US 5822749 A

TITLE: Database system with methods for improving query performance with cache optimization strategies

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>	<a href="#">Claims</a>	<a href="#">KMC</a>
<a href="#">Draw Desc</a>   <a href="#">Image</a>											

 **3. Document ID: US 5812996 A**

L6: Entry 3 of 3

File: USPT

Sep 22, 1998

US-PAT-NO: 5812996

DOCUMENT-IDENTIFIER: US 5812996 A

TITLE: Database system with methods for optimizing query performance with a buffer manager

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>	<a href="#">Claims</a>	<a href="#">KMC</a>
<a href="#">Draw Desc</a>   <a href="#">Image</a>											

[Generate Collection](#)[Print](#)

Terms	Documents
(hint\$ same (quer\$ or sql)).ab.	3

**Display Format:**  TI  Change Format

[Previous Page](#)      [Next Page](#)

**WEST**[Generate Collection](#)[Print](#)**Search Results - Record(s) 1 through 3 of 3 returned.** **1. Document ID: US 6397261 B1**

L7: Entry 1 of 3

File: USPT

May 28, 2002

US-PAT-NO: 6397261

DOCUMENT-IDENTIFIER: US 6397261 B1

TITLE: Secure token-based document server

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>	<a href="#">KWMC</a>	
<a href="#">Draw</a>	<a href="#">Desc</a>	<a href="#">Image</a>									

 **2. Document ID: US 6397206 B1**

L7: Entry 2 of 3

File: USPT

May 28, 2002

US-PAT-NO: 6397206

DOCUMENT-IDENTIFIER: US 6397206 B1

TITLE: Optimizing fixed, static query or service selection and execution based on working set hints and query signatures

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>	<a href="#">KWMC</a>	
<a href="#">Draw</a>	<a href="#">Desc</a>	<a href="#">Image</a>									

 **3. Document ID: US 6189046 B1**

L7: Entry 3 of 3

File: USPT

Feb 13, 2001

US-PAT-NO: 6189046

DOCUMENT-IDENTIFIER: US 6189046 B1

TITLE: Mechanism and method for merging cached location information in a distributed object environment

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>	<a href="#">KWMC</a>	
<a href="#">Draw</a>	<a href="#">Desc</a>	<a href="#">Image</a>									

[Generate Collection](#)[Print](#)

Terms	Documents
(hint\$ same (quer\$ or sql)).clm.	3

**Display Format:**

[Previous Page](#)      [Next Page](#)

**WEST**[Help](#)[Logout](#)[Interrupt](#)[Main Menu](#) [Search Form](#) [Posting Counts](#) [Show S Numbers](#) [Edit S Numbers](#) [Preferences](#) [Cases](#)**Search Results -****Terms****Documents**

(hint\$ same (quer\$ or sql)).clm.

3

Database:

US Patents Full Text Database
US Pre-Grant Publication Full-Text Database
JPO Abstracts Database
EPO Abstracts Database
Derwent World Patents Index
IBM Technical Disclosure Bulletins

**Search:**  
  
 **Search History****DATE: Wednesday, June 12, 2002** [Printable Copy](#) [Create Case](#)**Set Name** **Query**  
side by side**Hit Count** **Set Name**  
result set*DB=USPT; PLUR=YES; OP=OR*

<u>L7</u>	(hint\$ same (quer\$ or sql)).clm.	3	<u>L7</u>
<u>L6</u>	(hint\$ same (quer\$ or sql)).ab.	3	<u>L6</u>
<u>L5</u>	(hint\$ same (quer\$ or sql)).ti.	1	<u>L5</u>
<u>L4</u>	hint\$ same (quer\$ or sql)	47	<u>L4</u>
<u>L3</u>	L2 and hint\$	1	<u>L3</u>
<u>L2</u>	5857180.pn.	1	<u>L2</u>
<u>L1</u>	6397206.pn.	1	<u>L1</u>

**END OF SEARCH HISTORY**

**WEST****Freeform Search****Database:**

US Patents Full-Text Database  
US Pre-Grant Publication Full-Text Database  
JPO Abstracts Database  
EPO Abstracts Database  
Derwent World Patents Index  
IBM Technical Disclosure Bulletins

**Term:**

hint\$ same (quer\$ or sql) and partition\$

**Display:**

10

**Documents in Display Format:**

TI

**Starting with Number**

1

**Generate:**  Hit List  Hit Count  Side by Side  Image**Search History****DATE:** Wednesday, June 12, 2002 [Printable Copy](#) [Create Case](#)**Set Name** **Query**  
side by side**Hit Count** **Set Name**  
result set

DB=USPT; PLUR=YES; OP=OR

<u>L8</u>	hint\$ same (quer\$ or sql) and partition\$	13	<u>L8</u>
<u>L7</u>	(hint\$ same (quer\$ or sql)).clm.	3	<u>L7</u>
<u>L6</u>	(hint\$ same (quer\$ or sql)).ab.	3	<u>L6</u>
<u>L5</u>	(hint\$ same (quer\$ or sql)).ti.	1	<u>L5</u>
<u>L4</u>	hint\$ same (quer\$ or sql)	47	<u>L4</u>
<u>L3</u>	L2 and hint\$	1	<u>L3</u>
<u>L2</u>	5857180.pn.	1	<u>L2</u>
<u>L1</u>	6397206.pn.	1	<u>L1</u>

**END OF SEARCH HISTORY**